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(71) Applicant: ACE COIN EQUIPMENT LIMITED  
Ace House Lanelly Road Talbot Green  
Mid. Glamorgan South Wales(GB)

(72) Inventor: Arnold, William Keith  
21 Ddol Road  
Dunvant Swansea(GB)

(74) Representative: Meddie, Alan Leonard et al,  
FORRESTER & BOEHMERT Widenmayerstrasse 4/1  
D-8000 München 22(DE)

(54) An amusement or gaming machine.

(57) A fruit machine has a display screen (5) on which is formed an image consisting of a plurality of columns of symbols (1-4), the symbols progressing during play along the column to disappear from the bottom end thereof while fresh symbols appear at the top end of the column. The movement of the symbols is stopped at the end of the game to produce a static final image in which the combination of symbols determines whether or not a player has won. Column-exchanging means controlled by player controls (8 and 9) are provided to enable the player to exchange the positions of respective columns of symbols in the display in an attempt to achieve a winning combination.

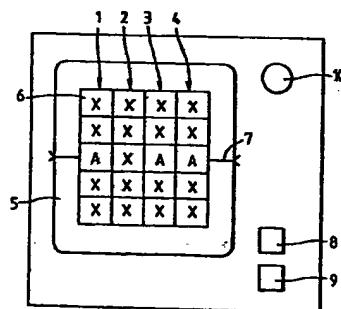


Fig.1

EP 0 058 488 A1

**"An amusement or gaming machine"**

THIS INVENTION relates to improvements in or relating to amusement or gaming machines.

According to the invention, in one aspect, there is provided an amusement or gaming machine having a display screen on which is formed an image of a symbol array in which the symbols change during play to form chance combinations, the displayed combination of symbols at the end of a game determining whether or not the player has won according to pre-determined rules, in which machine symbol-exchanging means operable by the player are provided to enable the player to exchange the respective positions of at least two of the symbols in a static condition of the array during the course of a game in an attempt to obtain an advantage.

The invention finds particular application in the case of a so-called fruit machine in which the image formed on the display screen (for example the screen of a cathode ray tube) consists of a plurality of columns of symbols in side-by-side relationship, each column having the same number of symbols and simulating the visible periphery of a reel rotatable about an axis parallel to the display screen. During a game, the symbols progress down the column and disappear from the bottom of the column, while simultaneously fresh symbols appear at the top of the column. At the end of the game, the movement of the symbols is stopped and the combination of symbols appearing in the resulting static final image determines whether a player has won.

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Accordingly, in another aspect, the invention provides a fruit machine having a display screen on which is formed an image consisting of a plurality of columns of symbols, the symbols progressing during play along the column to disappear from one end thereof while fresh symbols appear at the other end of the column, the displayed combination of symbols at the

nd of the game determining whether or not a player has won according to predetermined rules, in which machine symbol exchanging means operable by the player are provided to enable the player to exchange the respective positions of at least two of the symbols in a static condition of the displayed image during the course of a game in an attempt to obtain an advantage.

5 In one embodiment of the invention, the symbol exchanging means comprises means for enabling the player to exchange the respective positions of first and second columns of symbols.

10 If desired, in a machine having a display of four or more columns of symbols, symbol-exchanging means may be provided for exchanging the positions of third and fourth symbol columns. Provision may be made for effecting either one or both exchanges in a given game.

15 Preferably, the symbol-exchanging means constitutes an intermittent feature of the machine which is operative only on games selected, for example, at random. The machine may be provided with a warning device, such as a flashing light, to indicate that the symbol-exchanging feature is 20 available.

25 The symbol-exchanging means may, for example, be operable by the player in a static condition of the symbol array at the end of a game in an attempt to achieve a winning combination of symbols, or a combination of symbols resulting in a further opportunity to play being available, or a combination of symbols which may be advantageous at the start of the next game.

30 The symbol-exchanging means may alternatively or additionally be operable by the player in a static condition of the symbol array at the start of a game in an attempt to achieve a combination of symbols which is more advantageous than the existing combination of symbols.

35 In order that the invention may be readily understood, an embodiment thereof will now be described, by way of example, with reference to the accompanying drawing, in which:

FIGURE 1 is a schematic view of the display screen and control panel of a fruit machine embodying the invention before operation of a reel-exchange control of the machine; and

5 FIGURE 2 is a schematic view of the display screen after operation of the reel-exchange control to exchange the positions of the first and second reels.

10 The accompanying drawing schematically illustrates, by way of example, a video fruit machine having a display screen 5 constituted by the screen of a cathode ray tube. Electronic circuitry (not shown) of the machine operates in known manner to produce on the screen 5 an image consisting of four columns 1-4 of symbols, each column having five symbols 15 locations 6 and representing the visible periphery of a fruit machine reel rotatable about an axis parallel to the screen. During a game the electronic circuitry of the machine changes the displayed image in such a way that the symbols of a column travel down the column to disappear at the bottom of the column and be replaced by new symbols added to the top of the column, thereby simulating the rotation of reels in a mechanical fruit machine 20 employing rotatable reels. At the end of a game the movement of the symbols is stopped and the combination of symbols on a payline 7 in the resulting static final image normally determines whether or not a player has won.

25 However, on selected games, the player is given an opportunity to vary the final image in an attempt to achieve a winning combination of symbols. To this end, the machine has a first reel-exchange control 8 for exchanging the respective positions of the first and second columns 1 and 2 of the image and a second reel-exchange control 9 for exchanging the 30 respective positions of the third and fourth columns 3 and 4 of the image. Pressing the control 8 and 9 when operative results in the image on the display screen being changed so that the positions of the associated two symbol columns are exchanged. The availability of the option to exchange reel positions in a selected game may be determined at random or according 35 to a predetermined sequence and may be signalled by an indicator 10, such as a flashing light.

Figure 1 shows an image on the display screen at the end of a game, where a non-winning combination appears on the payline 7. In the drawing, the letter A is a symbol position denotes a given symbol and the letter X denotes any other symbol. The rules of play are such that the presence on the payline of the same symbol in each of columns 2 to 4 represents a winning combination. Thus, although the combination of symbols on the payline as shown in Figure 1 is a non-winning combination it can be converted into a winning combination simply by exchanging the positions of the first and second reels 1 and 2. Accordingly, if the exchange feature is available at the end of the game represented by Figure 1, the player can simply press the first exchange control 8 to convert the displayed image into that illustrated in Figure 2 so that a winning combination exists on the payline. Clearly, operation of the second exchange control 9 would not however convert the payline combination into a winning combination.

Whilst the above described embodiment of the invention is described as employing a cathode ray tube display, clearly any other form of electronically or optically scanned imaging screen would be suitable.

Moreover, while the above embodiment enables two particular combinations of pairs of symbol columns to be exchanged, it is envisaged that the positions of other combinations of columns may be exchanged and even that sub-groups or possibly individual symbols may be exchanged between columns.

The simple determination of wins from the combination of symbols on a horizontal payline is described above by way of illustration only. Clearly, the concept of the present invention is applicable to machines having multiple, diagonal and other forms of paylines.

Although the exemplary embodiment of the invention has been described as having a symbol-exchanging feature which is available at the end of a game and which is used in an attempt directly to achieve a winning combination of symbols, other possibilities are of course feasible.

For example, in the case of a machine having a random "hold" feature whereby individual columns of symbols may be individually or collectively

held at the beginning of a game, the symbol-exchanging feature provided by the present invention could be used at the end of a game to obtain a combination of symbols which would be advantageous should the hold feature be available on the next game.

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Similarly, in a machine with a feature which is enabled by a particular arrangement of special symbols appearing in the display at the end of a game, the symbol-exchanging facility may be used in an attempt to achieve the necessary combination of special symbols and thereby enable 10 the relevant feature game of the machine. One example of such a further feature game is a "nudge" feature which is enabled by a particular combination of special "nudge" symbols in the display at the end of a normal game.

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It is contemplated that the symbol-exchanging feature provided by the present invention may be made available at any desired stage during a game when the symbol displayed is static. In particular, it is envisaged that the symbol-exchanging feature may be available at the start of a game to enable an advantageous position for a subsequent hold feature to be 20 achieved. Moreover, the symbol-exchanging feature may be made available at different stages during different games.

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CLAIMS

1. An amusement or gaming machine having a display screen on which is formed an image of a symbol array in which the symbols change during play to form chance combinations, the displayed combination of symbols at the end of a game determining whether or not the player has won according to predetermined rules, in which machine symbol-exchanging means operable by the player are provided to enable the player to exchange the respective positions of at least two of the symbols in a static condition of the array during the course of a game in an attempt to obtain an advantage.  
5
2. A fruit machine having a display screen on which is formed an image consisting of a plurality of columns of symbols, the symbols progressing during play along the column to disappear from one end thereof while fresh symbols appear at the other end of the column, the displayed combination of symbols at the end of the game determining whether or not a player has won according to predetermined rules, in which machine symbol exchanging means operable by the player are provided to enable the player to exchange the respective positions of at least two of the symbols in a static condition of the displayed image during the course of a game in an attempt to obtain an advantage.  
15
3. A fruit machine according to claim 2, wherein the symbol exchanging means comprises means for enabling the player to exchange the respective positions of first and second columns of symbols.  
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4. A fruit machine according to claim 3 which has a display of four or more columns of symbols, wherein the symbol-exchanging means comprises means for exchanging the respective positions of third and fourth symbol columns.  
30
5. A machine according to any preceding claim, wherein the symbol-exchanging means constitutes an intermittent feature of the machine which is available only for selected games.  
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6. A machine according to claim 5 which has a warning device to indicate that the column-exchanging feature is available.

7. A machine according to any preceding claim, wherein the symbol-exchanging means is operable by the player in a static condition of the symbol array at the end of a game.
- 5 8. A machine according to any preceding claim, wherein the symbol-exchanging means is operable by the player in a static condition of the symbol array at the start of a game.

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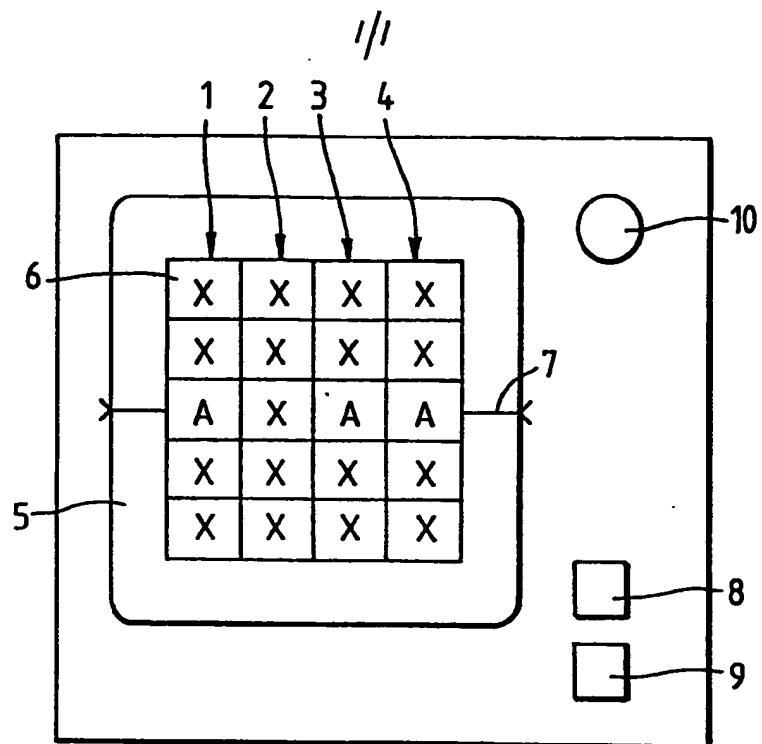


Fig. 1

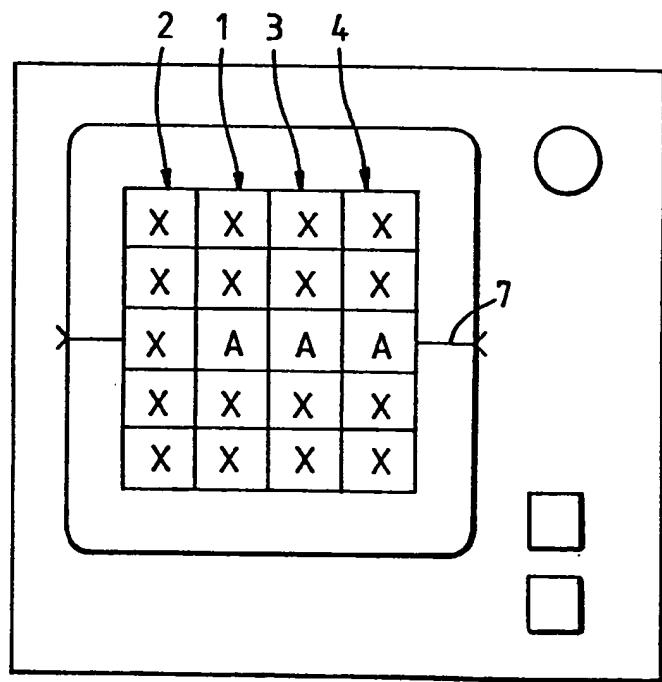


Fig. 2



European Patent  
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EUROPEAN SEARCH REPORT

0058488

Application number

EP 82 30 0497

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. 5)
A	EP-A-0 005 930 (BARCREST) *Abstract; claims; figure 2*	1,2	G 07 F 17/34
A	--- DE-A-2 527 724 (BALLY) *Figures and claims*	1,2	
A	--- DE-A-2 329 255 (INTERNATIONAL CYBERNETIC MACHINES) *Claims; pages 6 and 7*	1,2,5	
A	--- GB-A-2 033 638 (J.P.M) *Complete document*	1,2,5 7	
A	--- GB-A-1 466 765 (BELL-FRUIT) *Claims and figures*	1,2	
A	--- US-A-3 918 716 (H.NONAKA) *Abstract and figure 1*	1,2	TECHNICAL FIELDS SEARCHED (Int. Cl. 5) G 07 F 17/34 G 07 F 17/32 A 63 F 9/00
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	27-05-1982	DAVID J.Y.H.	
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